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ABSTRACT

This paper analyzes changes in educational aspirations and related constructs as an approach to understanding student careers. It explores the effects of beginning postsecondary education in a two-year college versus a four-year college/university, after controlling for background characteristics (gender, race/ethnicity, socioeconomic status, and measured ability), initial educational goal commitments, and secondary and postsecondary program and performance. Data were drawn from the senior cohort of the "High School and Beyond" database, involving a sample of 2,894 students. Logit model results indicate that beginning postsecondary education in a two-year college increases the likelihood of a downward adjustment in expectations, and that this effect is most pronounced among those initially anticipating graduate study. Includes 30 references. (JDD)

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Mobility of educational expectations: the effect of community colleges

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This paper was presented at the annual meeting of the Association for the Study of Higher Education held at the Red Lion-Jantzen Beach in Portland, Oregon, November 1-4, 1990. This paper was reviewed by ASHE and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC collection of ASHE conference papers.

Mobility of educational expectations: the effect of community colleges

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A paper presented at the Annual Meeting of the Association for the Study of Higher Education (Portland, Oregon, November 1-4, 1990).

ABSTRACT

In this paper I examine the analytic pitfalls of persistence/attrition and attainment approaches to the study of student careers in higher education, and propose the benefits of examining changes in educational aspirations and related constructs as an approach that can further inform our understanding of student careers. This discussion is followed by a test of a simple model of adaptation to educational expectations in the two years following high school, using data from the senior cohort of *High School and Beyond*. The model explores in particular the effects of beginning postsecondary education in a two-year college versus a four year college/university, after controlling for background characteristics (gender, race/ethnicity, SES, and measured ability), initial educational goal commitments, and secondary and postsecondary program and performance. Logit model results indicate that beginning postsecondary education in a two-year college increases the likelihood of a downward adjustment in expectations, and that this effect is most pronounced among those initially anticipating graduate study. The paper concludes with a discussion of the relevance of these findings to the study of student careers and of the need for detailed study of the lives students live as they negotiate the higher education system.

Mobility of educational expectations: the effect of community college attendance.[1]

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Introduction and overview

The bulk of inquiry into student progress through postsecondary education has adopted one of two analytic approaches. The first approach focuses on student persistence and attrition within an institution, while the second focuses on students' eventual educational attainment. In this paper I briefly consider the analytic pitfalls of each approach, and propose examining changes in students' conceptions of their eventual attainment as an approach that can add to our understanding of post-secondary experiences and outcomes. I then test a simple model of the effect of college type (two-year versus four-year institution) on the likelihood of a downward shift in a student's educational expectations.

Persistence, attainment, and an alternate approach

The persistence approach has been extremely valuable in helping us understand student departures from a given institution, but has been less informative with respect to the more general question of students' negotiation of the higher education system (see Pascarella and Chapman, 1983; Pascarella and Terenzini, 1980; Terenzini *et al.*, 1985; Tinto,

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1975). For example, persistence/attrition approaches typically do not distinguish among inter-institutional transfers, stopouts, and dropouts, thus excluding transfer and subsequent re-entry students as categories of persisters. While these difficulties could be addressed within the persistence framework by modifications in research design and data analysis, another difficulty cannot: the focus on persistence does not identify those students who persist within an institution but in the process abandon their plans for further education. To the extent that these changes in plans are related to students' experiences in an institution, then such students should not necessarily be treated as unqualified institutional successes.[2] Yet the persistence framework implicitly does so. Failure to treat such students as substantively different from other persisters and analytically interesting precludes identification of factors that may be important to the advancement of both theory and educational policy.

The second approach is to examine educational attainment (for example, see Anderson, 1988; Sewell and Hauser, 1976). In studying educational attainment, the researcher must choose an age at which individuals are thought to have completed their education. To truly capture 'final' educational attainment, one must measure attainment at a late enough age to allow for re-entry and completion after stopping out, as well as for completion of advanced degrees. By measuring at a later age, however, the range of individuals' experiences and activities may be so varied that it

[2] This is not to say that all downward adjustment is bad; most would agree that change of goals and interests is a part of the transition to adulthood that occurs in higher education. What I am arguing here is simply that such change is a largely unstudied outcome in research on educational careers.

becomes difficult to formulate a parsimonious yet satisfactory explanatory model of the effects of educational experiences on ultimate attainment. A second drawback of this approach is that it requires relatively 'old' data on students' early educational careers, introducing the possibility that the effects observed for the cohort under study do not describe the current process.[3] Alternatively, measuring attainment at an earlier age may serve the model at the expense of its relationship to the underlying theory – the model implicitly becomes one of educational progress rather than attainment. To the extent that groups differ less in final attainment than in *time path* to a particular level of attainment, substituting progress for attainment introduces a selection artifact that may lead to faulty conclusions.

What I propose is to supplement these approaches by focusing attention on an important component of both persistence and attainment models. Studies that derive from Tinto's work on student departure (Tinto, 1975) typically rely on a measure of educational aspirations as an indicator of goal commitment (*e.g.*, Chapman and Pascarella, 1983; Pascarella and Chapman, 1983; Pascarella and Terenzini, 1980; Terenzini *et al.*, 1985). Models of educational attainment that derive from the Wisconsin model of status attainment (Sewell *et al.*, 1969) also include measures of educational aspirations. In fact, educational aspiration (most often measured during high school) typically has the largest standardized effect on attainment in these models (Haller and Portes, 1973; Sewell *et al.*,

[3] Of course, this difficulty inheres in *any* longitudinal study of a single cohort. My argument is that this problem is exacerbated when examining educational attainment requires a long lag between secondary attendance and measures of 'final' attainment. We are only beginning to accumulate adequate longitudinal data on several national cohorts to allow comparisons across historical time.

1969; Sewell and Hauser, 1976; Sewell and Shah, 1967). Given the difficulties with the persistence and attainment approaches discussed above, I propose that shifting attention to aspirations and related constructs may fruitfully inform our understanding of students' postsecondary careers. In this paper, my specific interest is in studying *changes in educational expectations* as students negotiate the higher education system.

The study of educational aspirations and related constructs

First, let me distinguish my use of what I consider related, but distinct, constructs: aspirations, plans, and expectations. I use *aspirations* in the sense captured by the following question asked in the National Longitudinal Study of the High School Class of 1972 (NLS): "What is the highest level of education you would like to receive?" Thus aspirations may include hopes and dreams that may or may not be consistent with objectives. I use *plans* to refer to more concrete intentions, as illustrated by questions asking respondents to specify the highest degree planned (*e.g.*, NLS and the Cooperative Institutional Research Program [CIRP] surveys). Finally, *expectations* refers to a student's assessment of his or her eventual attainment, as in the following question from High School and Beyond (HSB): "As things stand now, how far in school do you think you will get?"

Each construct has its advantages and its difficulties. Adelman's analysis of NLS data has shown that plans more reliably predict attainment at age 30 than do aspirations (Adelman, 1989). I am unaware of similar

work comparing expectations measures with eventual attainment, however it is reasonable to suppose that students take the likely outcome into account when responding to expectations items (see Marini and Greenberger, 1978 for an examination of gender differences in the discrepancy between aspirations and expectations). On the other hand, expectations measures may be less stable due to short-term fluctuations in students' lives (*e.g.*, academic performance, finances, emotional affect).

Educational aspirations, plans, and expectations at the college level have not gone altogether unexamined (see Astin, 1977; Astin and Panos, 1969; Drew and Astin, 1972; Kamens, 1979; Pascarella, 1984; Thistlethwaite and Wheeler, 1966). In addition, Anderson has examined variation in educational expectations as an intermediate outcome in path-analytic models of attainment and persistence (Anderson, 1981; Anderson, 1988). These studies differ dramatically in two major ways: specification of the outcome variable and definition of the population from which the sample is drawn.

Some of the studies cited above focus on aspirations, while others focus on plans or expectations. In fact, some do not distinguish among these constructs, using the term aspirations more broadly than I define it here. Pascarella's 1984 study of college environment and changing plans[4] is most relevant to the present paper. However, in order to examine the effect of the institutional environment on changes in plans he restricted the sample to full-time students persisting in a four-year institution from 1975 to 1977. The sample thus excludes part-time students, students in two-year colleges, transfers, stopouts, and dropouts.[5] Since my interest

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[4] 'Aspirations' in Pascarella's terminology.

[5] While this selection allows a better estimation of the effect of fine-grained measures of the institutional environment, it most likely excludes the bulk of the variation in changing plans.

is in a more general exploration of changes in expectations, I prefer a more inclusive sample at the expense of fine-grained test of environmental effects.

Community colleges and the cooling out process

Thirty years ago, Burton Clark proposed that one of the community college's functions is that of 'cooling out' the inappropriate aspirations of many students to transfer to four year programs, thereby maintaining the conflicting ideologies of equality of opportunity and commitment to academic quality among four-year institutions (Clark, 1960). More recently, Clark has argued that the cooling out function may be a necessary part of the landscape in an open system of higher education:

> This side of utopia, academic systems… will be, in Erving Goffman's large phrase, a graveyard of hope… Only the naive do not recognize that with hope there is disappointment, with success, failure. The settings that lead toward the cooling out effort remain, all the more so as democracies open doors that were formerly closed. Any system of higher education that has to reconcile such conflicting values as equity, competence, and individual choice… has to effect compromise procedures that allow for some of each. The cooling out process is one of the possible compromises, perhaps even a necessary one.
> (Clark, 1980)

Karabel (1972) argues on the other hand that this is a class-based function, in which the community college contributes to the inter-generational transfer of privilege:

> Community colleges exist in part to reconcile students' culturally induced hopes for mobility with their eventual destinations, transforming structurally induced failure into individual failure. This serves to legitimize the myth of an equal opportunity structure; it shifts attention to questions of individual mobility rather than distributive justice. (Karabel, 1972:249)

A number of researchers have examined the effect of community college

attendance on ultimate attainment, with the general finding that such attendance has a depressant effect (see Dougherty, 1987 for a review of this literature).

In this paper I am interested in a more direct test of the cooling out process than is possible in studying eventual attainment: what is the effect of beginning postsecondary education in a two-year college[6] on the likelihood that a student will adjust her/his educational expectations downward in the two years following high school graduation? The model is largely informed by the persistence and status attainment traditions described earlier. The likelihood of a downward adjustment is seen as influenced by students' background characteristics (gender, race/ethnicity, family socio-economic status, and measured ability), high school experiences (program type and academic performance), initial goal commitments (expectations, significant others' influence, duration of college plans[7]), and postsecondary educational experiences (type of college first attended, part- or full-time attendance, enrollment in an academic program, institution control, and academic performance[8]). The model is depicted in Figure 1.

Data and variables

The data for the study are drawn from the senior cohort of the U.S.

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[6] I use the terms 'community college' and 'two-year college' interchangeably in this paper. Furthermore, most uses are restricted to public institutions.

[7] I include this because I reason that the stability or persistence of plans may be related to a student's propensity to alter them.

[8] Note that, since grades are one of the mechanisms of cooling out proposed by Clark, this model tests for a cooling-out effect independent of postsecondary achievement.

Department of Education's longitudinal study *High School and Beyond* (National Opinion Research Center, 1987). Nearly 12,000 participants completed detailed surveys during their senior year of high school and completed follow-up surveys every two years thereafter. The analysis uses data from the base year (1980) and first follow-up survey (1982), with the sample restricted as follows:

Blacks, Hispanics, and Whites;
May or June, 1980 high school graduates;
1980 educational expectations of at least two years of college;
First school after high school identified as a 2-year college or 4-year college/university;
Attending school in October, 1980.

The sample is relatively narrowly defined so as to focus on 'traditional' college students: those completing high school on time and entering college the following year. The restriction on initial expectations excludes those whose postsecondary intentions were initially low – less than two years of college, or vocational education only – and hence subject to little or no downward adjustment. After sample selection and deletion of cases missing data on any variables in the model, the sample size is 2894.

The dependent variable in the analysis is *COOLED82*, a dichotomous variable indicating whether respondents' educational expectations underwent a downward shift in the two years after high school graduation. Comparison of participants' 1980 and 1982 responses to the question "How far in school do you think you will get?" generates this dichotomous outcome.[9,10]

Independent variables in the study are defined below.

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[9] The 1982 survey added a 'Don't know' choice to this question. The 299 respondents in this category are excluded from the sample.

[10] A more elaborate analysis examining both upward and downward adjustment is currently under way. It is important to note that community colleges could simultaneously increase the likelihood of upward *as well as* downward adjustment of aspirations.

Interval variables:

SES: a standardized score supplied with the HSB data that is based on parents' education, family income, and household possessions;[11]
TEST: a composite score supplied with the HSB data, based on a battery of test administered in the base year;
SOINF: significant others' influence in favor of college – the number of 'Go to college' responses to the question, "What do the following people [father, mother, guidance counselor, teachers, friends or relatives about your own age] think you ought to do after high school?" [ranges from 0 to 5];
PLANYRS: duration of plans for a bachelor's degree – the number of 'yes' responses to the question, "Did you expect to go to college when you were in the following grades?" [8th through 11th; ranges from 0 to 4];
HSGPA, PSGPA: High school and postsecondary grades, recoded to correspond to the 0.0 to 4.0 scale;[12]

Dichotomous dummy variables:

FEMALE, BLACK, and *HISPANIC* are self-explanatory; white males constitute the excluded category;
ACADHS: coded 1 if high school program described as 'academic or college preparatory';
EXP80-BA: coded 1 if respondent chose 'Finish college (four- or five-year degree)' to the base year expectations item;
EXP80-GR: coded 1 if respondent's choice on this item indicated expectations of a graduate degree;[13]
PT: coded 1 if respondent was not classified as a full-time student in the last month attending the first school after high school;[14]
CC: coded 1 if the first school after high school is identified as a 'Junior or community college (2-year)';
ACADCOLL: coded 1 if respondent identifies the program of study in the first school after high school as 'An academic program (typically leads to a 4- or 5-year Bachelor's degree)';
PRIVATE: coded 1 if respondent identifies the first school after high school as under private control.[14,15]

Descriptive statistics for these variables appear in Table 1. Note that

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[11] Note that since this measure is standardized on the whole HSB sample, its mean and standard deviation do not equal zero and one for this study's sample.
[12] For *HSGPA,* 'Mostly below D' coded as 0.5. For *PSGPA,* 'Mostly D or below' coded as 1.0; 'Have not taken any courses for which grades were given' coded as missing.
[13] Hence the excluded category for initial expectations is those responding 'Two or more years of college (including two-year degree).'
[14] 'Don't know' responses coded missing.
[15] Hence the excluded category with respect to attendance and program is full time students at public, four-year institutions in non-academic programs.

over 30% of these 1980 high school graduates who went to college have shifted their educational expectations downward two years after high school.

Intercorrelations for the variables in Table 1 appear in Appendix A.

Analysis and results

I employed logistic regression to estimate the parameters of the model. A logistic regression, or logit, model is more appropriate than the more familiar linear model for two reasons: first, the assumption of linear functional form does not hold with a dichotomous outcome, while the logit model allows specification of a more reasonable functional form[16]; second, a linear model can generate nonsensical predicted probabilities of less than zero or more than one, while the logit model's functional form is asymptotic to zero and one (see Aldrich and Nelson, 1984 for a concise discussion and explication of these issues). Logit model results appear in Table 2a. By themselves, these parameter estimates are not subject to easy interpretation except insofar as what their sign tells us: a positive coefficient means an increase on this variable leads to higher probability of downward adjustment of expectations, while a negative coefficient corresponds to a lower probability. Confining our attention to the significant effects, we see that the following variables are associated with greater likelihood of a downward adjustment of expectations after

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[16] Specifically, the logit model assumes the probability P of observing the dichotomous event E (*i.e.*, that E=1) is a function of the form:

$$P(E=1|\mathbf{X}) = \frac{\exp(\sum \beta \mathbf{X})}{1 + \exp(\sum \beta \mathbf{X})},$$

where $\mathbf{X}$ is a vector of covariates postulated to be related to the event under investigation and β is a vector of parameters to be estimated.

controlling for the other variables: *EXP80-BA, EXP80-GR, PT,* and *CC.* The effects of higher initial expectations result from the choice of reference group for initial expectations, as well as a ceiling effect for *EXP80-GR.* The effect of part-time attendance conforms to the conventional wisdom and empirical findings (Astin, 1977), and the effect of beginning in a two-year college supports the cooling out hypothesis. It is also interesting to note that the model does support the notion of race/ethnicity differences in this process – and that the model suggests Blacks and Hispanics are less likely to adjust expectations downward after controlling for the other variables in the model.

The difficulty with a nonlinear model lies in seeking more substantive interpretation of the parameters. Since the model is nonlinear, the effect of each independent variable is not constant, but depends on the values of the other variables. Thus in order to render these results interpretable, it is customary to present estimated effects given postulated values for hypothetical "exemplary cases."[17] The effect is interpreted as the change in probability of a downward adjustment associated with a unit change on the variable of interest, with values on all other variables held constant. For the exemplary case analysis I use parameter estimates given in Table 2b, a restricted model with non-significant effects removed.

For the purposes of this paper, I have examined the effects for two classes of exemplary cases. The first class consists of hypothetical cases with values on the independent variables equal to their means for the entire sample (as given in Table 1) and for the subsample defined as

[17] See Aldrich and Nelson, 1984, for elaboration on the procedure for calculating change scores.

follows: those students with 1980 expectations of a bachelor's degree who were full-time students in an academic program at a public four-year institution. For this class of exemplary cases, the effects of each independent variable are presented in Table 3. Examining the effects for the subsample, we see that the probability of downward adjustment of expectations would be about 5 percentage points higher had an otherwise identical student begun postsecondary education in a 2-year college (still as a full-time student in an academic program at a public institution, earning identical postsecondary grades). While this effect appears small at first glance, recall that only about 10% of this subsample actually did adjust expectations downward, and that the model predicts a 12% probability for this exemplary case. Thus starting in a 2-year college increases this probability by nearly 40% for the archetypal student in this group. Another way to view the effect is to compare it to some of the other effects in the table. Starting in a 2-year college would be nearly as damaging to expectations for this student as being a part-time student (.048 versus .055), and exerts a stronger effect on the probability of a downward shift than a college GPA that is one point lower on the four-point scale (.048 versus .042).

The second class of exemplary cases present similar 'typical' full-time students in academic programs in public, four-year institutions analyzed along four dimensions: initial expectations, race/ethnicity, SES, and test score. These groupings allow us to delve more deeply into the question of cooling out effects for different types of students (*e.g.*, the average low-SES white student initially expecting a BA, the average high-test score black student expecting a graduate degree, and so on). For this exemplary

case analysis, I restrict attention to the following question: according to this model, how much more or less likely would a typical student in this category be to adjust expectations downward had s/he begun postsecondary education in a two-year college[18]? Table 4 presents predicted probabilities and change scores for the effect of 'reclassifying' the average student in each category as having started in a two year college, holding the values on all other variables constant. For example, consider two leftmost columns of the fourth row. These results tell us that for the average low-SES black student with initial expectations of a bachelor's degree entering a public, four year institution as a full-time student in an academic program, the model predicts a .177 probability that s/he will adjust expectations downward. For a student who is otherwise identical on all variables in the model (including college grades) but who enters a two-year college[18], this probability increases by .065 to .242.

Examining the results in Table 4, we see that the race/ethnicity differences are small relative to the differences according to initial expectations, SES, and test score. It is also apparent that the figures for the low- and high- SES groups resemble those of the corresponding test score groups.[19] In absolute terms of effect on the probability of a downward adjustment, however, the largest effect of starting in a two-year college appears *across all subgroups of those initially expecting a graduate degree* – the group most at risk for a downward shift in the first place. For this group, a downward shift is about 10 percentage points

[18] Again, still as a full-time student in an academic program at a public institution.

[19] This is not surprising, of course, since students extreme on one scale tend also toward similar extremes on the other.

more likely, an effect that is virtually constant across all SES and test score groups with the exception of low-SES whites. Similarly, at the other extreme we see that high-SES and high-scoring students initially expecting to complete a bachelor's degree are least likely to shift downwards (predicted probabilities of .046 to .080), and least affected by reclassification as two-year college starters (likelihood of a downward shift increased by .020 to .036)

Discussion and conclusions

This approach to analyzing the effect of community college attendance has subjected the cooling out hypothesis to a fairly rigorous test: by controlling for initial expectations, program type, part-time attendance, and postsecondary grades, cooling out effects that can be justified by appeal to functionalist reasoning and meritocratic ideals would not be attributable to college type. Yet the cooling out effect persists. Indeed, it appears strongest for those with the highest initial expectations *regardless of ability*. To the extent that these students finish their bachelor's degree but choose not to pursue their earlier, more ambitious goals, I argue that the persistence approach to student careers implicitly views these students uniformly as institutional successes.[20]

This study suffers from many of the usual weaknesses – treating grades as comparable across institutions, reification of institutional classification schemes, and lack of a sound theoretical justification for the model. Another difficulty lies in the fact that little is actually known about the reliability of the expectations measure and its

[20] To repeat the point made earlier, this classification error is inherent in the persistence approach regardless of institutional type.

relationship to ultimate attainment. And as is the case with any finding of between-group differences there remains the possibility that the groups differ along some uncontrolled dimension, and that the differences attributed to two-year college are actually attributable to some other difference that correlates with two-year college attendance. Finally, this approach treats all downward adjustments as equivalent and excludes upward adjustment, while a more sophisticated analysis might model the specific direction (up or down), type (destination state), and degree (distance from origin to destination state) of adjustment.[21] But as an exploratory test of the value of examining aspirations-like constructs as outcomes of interest, this study shows (1) that patterns emerge that are consistent with previous theoretical work but not directly revealed in previous empirical studies, and (2) that theoretical approaches treating educational aspirations as static may overlook important processes that influence ultimate attainment. And like most attempts to cultivate a new strain of research, it answers a question with more questions.

Unfortunately, this analysis offers no clues to illuminating the mechanism underlying the disturbing effects observed. And I am not sanguine about the promise of strictly quantitative approaches and large-scale surveys for illuminating this process, for it seems likely that we will need a finely detailed understanding of how students live their lives in postsecondary institutions. This will require sophisticated ways of understanding students' cultures and their encounters with faculty and administrators, and sophisticated ways of understanding how faculty and administrators perceive and respond to their students. It will require

[21] I plan to attempt such approaches in future studies.

approaches that admit the large amount of variation that occurs within, as well as across, institutional types. Finally, it will require more sophisticated ways of distinguishing institutions, particularly two-year institutions that scholars of higher education have often treated as "other" in more than one sense of the word. For examples of promising approaches to such questions, see Erickson, 1975; Mehan, 1978; Neumann and Riesman, 1980; and Weis, 1985a and 1985b.

This is not to dismiss quantitative approaches and large-scale surveys, but to call for greater effort at developing complementary and convergent approaches to untangling complex phenomena in complex institutional settings.

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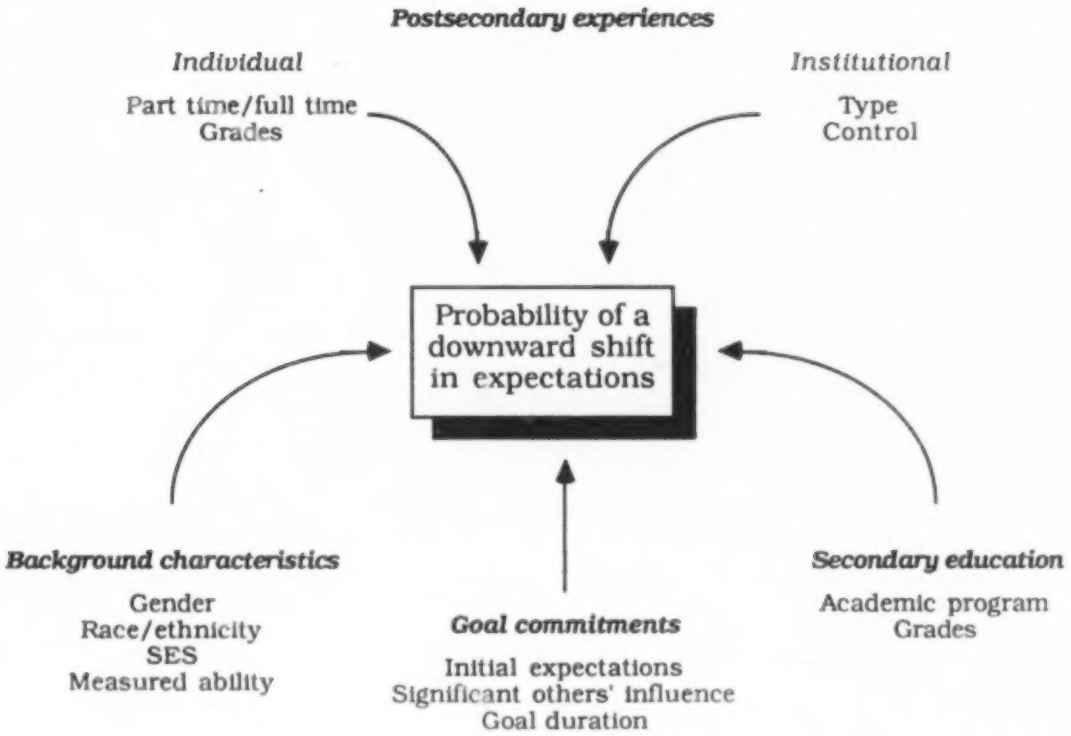

Figure 1

A model of adjustment
to educational expectations

Table 1.Descriptive statistics for the sample.[a]

Dummy variable	proportion of sample	
COOLED82	.317	
FEMALE	.577	
BLACK	.207	
HISPANIC	.176	
ACADHS	.664	
EXP80-BA	.449	
EXP80-GR	.434	
CC	.257	
PT	.071	
ACADCOLL	.916	
PRIVATE	.264	
Interval variable	**mean**	**standard deviation**
SES	0.083	0.763
TEST	54.350	7.768
SOINF	4.055	1.144
PLANYRS	3.340	1.136
HSGPA	3.493	0.590
PSGPA	3.055	0.675

N = 2894. Data are drawn from the senior cohort of *High School and Beyond*.

Table 2. Logit model results.

	a. initial model			*b. restricted model*		
variable	coefficient	s.e.	t	coefficient	s.e.	t
(constant)	2.696	0.513	5.26***	2.693	0.468	5.76***
FEMALE	0.050	0.098	0.51	•	•	•
BLACK	-0.712	0.140	-5.08***	-0.684	0.136	-5.05***
HISPANIC	-0.533	0.139	-3.84***	-0.549	0.136	-4.05***
SES	-0.297	0.069	-4.34***	-0.289	0.068	-4.33***
TEST	-0.021	0.008	-2.55*	-0.024	0.008	-3.18**
SOINF	-0.031	0.043	-0.72	•	•	•
PLANYRS	-0.219	0.046	-4.76***	-0.219	0.044	-5.00***
ACADHS	-0.064	0.110	-0.58	•	•	•
HSGPA	-0.234	0.092	-2.53*	-0.230	0.088	-2.62**
EXP80-BA	0.972	0.201	4.84***	0.923	0.189	4.89***
EXP80-GR	3.519	0.220	16.02***	3.445	0.208	16.59***
PT	0.513	0.179	2.87**	0.510	0.175	2.92**
CC	0.417	0.129	3.22**	0.447	0.125	3.57***
ACADCOLL	-1.565	0.185	-8.45***	-1.553	0.176	-8.82***
PRIVATE	-0.259	0.112	-2.32*	-0.260	0.109	-2.39*
PSGPA	-0.409	0.075	-5.43***	-0.385	0.073	-5.28***
pseudo-R^2	.219			.216		
χ^2_{LR}	790.02***			814.67***		
df	16			13		
N	2894			3008		

* p(t)<.05 ** p(t)<.01 *** p(t)<.001
Maximum likelihood estimates given by the RATE software package.
Results are based on unweighted data.

Table 3: Changes scores for exemplary cases.[a]

variable	*change scores based on mean values for* entire sample[b]	subsample[c]	[subsample means]	
			COOLED82	.103
BLACK	-.143	-.074	BLACK	.221
HISPANIC	-.115	-.059	HISPANIC	.140
SES	-.060	-.031	SES	-.004
TEST	-.005	-.003	TEST	53.953
PLANYRS	-.046	-.024	PLANYRS	3.189
HSGPA	-.048	-.025	HSGPA	3.246
EXP80-BA	.192	.100	EXP80-BA	1.0
EXP80-GR	.719	.372	EXP80-GR	.0
PT	.106	.055	PT	.0
CC	.093	.048	CC	.0
ACADCOLL	-.324	-.168	ACADCOLL	1.0
PRIVATE	-.054	-.028	PRIVATE	.0
PSGPA	-.080	-.042	PSGPA	2.735
predicted probability[d]	.296	.123		

a. Change scores calculated using parameter estimates of the restricted model, with sample or subsample means on all independent variables entered as values for the 'exemplary case.'
b. Means from the larger (N=3008) sample permitted by the restricted model are used. These differ only slightly from the means for the N=2894 sample (Table 1) and provide better population estimates.
c. Subsample consists of students with 1980 expectations of a BA who were full-time students in an academic program at a public four-year institution in October, 1980. Subsample N = 678.
d. Probability of a downward adjustment in expectations for this exemplary case (with *CC*=0), as predicted by the restricted model.

Table 4: Change scores for exemplary cases according to subgroups.[a]

		1980 EXPECTATIONS			
		BACHELOR'S DEGREE		GRADUATE DEGREE	
		predicted probability	CC effect	predicted probability	CC effect
RACE/ETHNICITY					
	BLACK	.126	.049	.569	.110
	HISPANIC	.112	.044	.529	.111
	WHITE	.125	.049	.567	.110
SES[b]					
LOW	BLACK	.177	.065	.656	.101
	HISPANIC	.174	.064	.641	.103
	WHITE	.187	.068	.782	.076
HIGH	BLACK	.057	.024	.394	.107
	HISPANIC	.055	.023	.373	.104
	WHITE	.089	.036	.487	.112
TEST SCORE[b]					
LOW	BLACK	.158	.060	.665	.100
	HISPANIC	.161	.059	.636	.103
	WHITE	.207	.073	.665	.100
HIGH	BLACK	.046	.020	.452	.111
	HISPANIC	.048	.020	.328	.098
	WHITE	.080	.033	.488	.112

a. Exemplary cases based on the subsample means for full-time students in an academic program at a four-year public institution in categories that correspond to segments of the table (initial expectations, races/ethnicity, SES, test score). Predicted probabilities and CC effects calculated from parameter estimates for restricted model (Table 2a), given means for each subgroup.

b. Low/high SES and test score defined as at least one standard deviation below/above the mean [relative to the entire HSB sample for SES, and to the study sample for TEST SCORE].

Correlation matrix for all variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. COOLED	1.000																
2. FEMALE	.012	1.000															
3. BLACK	.033	.034	1.000														
4. HISPANIC	.013	-.036	-.236	1.000													
5. SES	-.034	-.042	-.215	-.222	1.000												
6. TEST	-.058	-.150	-.366	-.152	.271	1.000											
7. SOINF	-.013	-.028	-.027	.004	.131	.126	1.000										
8. PLANYRS	-.033	.024	-.026	.013	.213	.195	.249	1.000									
9. ACADHS	-.020	-.045	-.038	-.052	.146	.341	.180	.196	1.000								
10. HSGPA	-.056	.104	-.202	-.073	.051	.473	.138	.165	.201	1.000							
11. EXP804YR	-.327	-.023	-.063	-.033	-.063	-.066	-.024	-.074	-.019	-.068	1.000						
12. EXP80GR	.402	-.024	.100	.030	.144	.181	.139	.225	.166	.156	-.789	1.000					
13. PT	.069	.011	-.022	.049	-.006	-.069	-.059	-.040	-.096	-.069	-.031	-.033	1.000				
14. CC	.051	.015	-.075	.124	-.107	-.232	-.145	-.129	-.256	-.220	-.053	-.184	.243	1.000			
15. ACADCOLL	-.112	-.090	.022	-.001	.070	.182	.118	.176	.159	.095	.060	.157	-.076	-.315	1.000		
16. PRIVATE	-.039	.001	-.014	-.060	.091	.174	.106	.066	.175	.079	-.045	.120	-.120	-.274	.082	1.000	
17. PSGPA	-.114	.043	-.227	-.039	.120	.354	.067	.065	.106	.416	-.045	.060	-.040	.024	.014	.056	1.000

N = 2894